Key advantages
- Wider processing window of recycle streams
- Enhanced impact strength
- Excellent pallet aesthetics
- Dosage level lower than plastomers
- Higher productivity

See Hau Global Sdn. Bhd. is using the versatile capabilities of Vistamaxx™ performance polymers from ExxonMobil Chemical to improve the quality of its plastic pallets, which are manufactured using prime and recycled polyolefins. See Hau is using Vistamaxx polymers as a replacement for plastomers because of their capability to compatibilize post-consumer recycled polyolefin materials and ability to improve the impact strength and surface appearance of the pallets.

Plastic pallets growing in popularity
Wood is still the material of choice for pallet manufacturers, accounting for around 90% of the market. Although plastic pallets only account for 4% of the market, it is estimated that their use is growing at around 5% per year¹.

Growth is even higher in Asia Pacific, led by demand from China. Freedonia Group estimates that sales of plastic pallets in the region will grow by more than 8% per year to 2017².

There are several reasons for the growing popularity of plastic pallets:
- Excellent durability for better product protection and long-life
- Easy to clean
- Odor resistant
- Lightweight
- Recyclable

² World Pallets - Demand and Sales Forecasts, Market Share, Market Size, Market Leaders; Freedonia Group; Published February 2014. http://www.freedoniagroup.com/industry-study/3126/world-pallets.htm
Recycled material increases pallet appeal
Established in 1994, See Hau Global Sdn. Bhd. is Malaysia’s leading producer of plastic pallets. Headquartered in Kuala Lumpur, it produces nearly 1 million plastic pallets per year at factories in Sabak Bernam and Ulu Tiram.

The company offers a wide range of quality products including one-way shipping, nestable, rackable, super-hygiene and ASRS pallets. They are used in a range of industries, including pharmaceutical, electrical, food, paper and petrochemicals.

“Our goal is to help businesses move, store, and distribute their products faster, better, safer and more cost effectively,” says CC Cheah, deputy managing director, See Hau Global Sdn. Bhd. “We are always looking for improvements.”

To increase the performance of their one-way plastic pallets, See Hau incorporates recycled materials, such as PE and PP, into its virgin plastic material – usually PP. But, this can present challenges.

Mixed post-consumer recycled polyolefin materials may be incompatible which can affect the impact strength, a key criteria of the pallets, and general mechanical properties. This combined with poor surface appearance can lead to pallet rejection by customers.

The inconsistent quality of the recycle can also affect processability leading to an increase in costs.

Improving recycle compatibility
To help overcome the incompatibility of recycled PE and PP, and help solve associated problems, See Hau used PE-based plastomers. The plastomers did not deliver the results required, so the company began running trials with Vistamaxx™ polymers as a potential replacement.

“We first collaborated with ExxonMobil Chemical several years ago, after we learned about the new possibilities of Vistamaxx polymers at a conference,” says CC Cheah. Because Vistamaxx polymers are made of unique semi-crystalline copolymers of propylene and ethylene in the amorphous phase, they enable high homogeneity and good dispersion of both PE and PP. As a result, they are better compatibilizers than the plastomers See Hau used.

Better quality plastic pallets
The compatibilization and dispersibility capabilities of Vistamaxx polymers lead to better quality pallets than those manufactured using plastomers. These improvements include:

- Strength for better load-carrying capacity
- Stiffness that resists deformation under load
- Durability to withstand the rigors of shipping and handling
- Surface appearance for better looking products
- Price – often a priority

These improvements are being achieved using a dosage of Vistamaxx polymers that is lower than plastomers.

“We routinely perform standard industry drop tests from 3 feet, to check for cracking, stress whitening, deformation and other signs of weakness,” says Cheah. “The results are excellent and there have been fewer customer rejects and more positive feedback.”

The company’s products meet the stringent requirements of the American Society for Testing and Material (ASTM), the Japanese Industrial Standards (JIS) and the ISO standards.

Because Vistamaxx polymers deliver a more stable formulation for plastics pallet manufacturing, See Hau is also experiencing improvements in manufacturing efficiency and productivity.

Growing sales
The new pallets manufactured using Vistamaxx polymers are generating higher sales.

“The versatile performance of Vistamaxx is key to the success of our new pallets. We expect to generate new business due to the optimization of our pallet products,” says Mr Cheah.

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